



Transition of DoD Technologies in Support of Humanitarian Assistance and Disaster Relief Operations



2008 Arkansas floods



**Port-au-Prince
12 January 2010**

**Preparing for an
Uncertain Future**

**Rapid Fielding Directorate
Earl Wyatt
14 Jan 2010**

**Transnational Information Sharing Cooperation JCTD
is already in use in US Southern Command**

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 14 JAN 2010		2. REPORT TYPE		3. DATES COVERED 00-00-2010 to 00-00-2010	
4. TITLE AND SUBTITLE Transition of DoD Technologies in Support of Humanitarian Assistance and Disaster Relief Operations				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Office of the Undersecretary of Defense for Rapid Fielding,Rapid Fielding Directorate,Washington,DC,20301				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Presented at the DARPA/STO Workshop at SOUTHCOM, Doral, Fla. 33172 on 14 Jan 2010					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 14	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



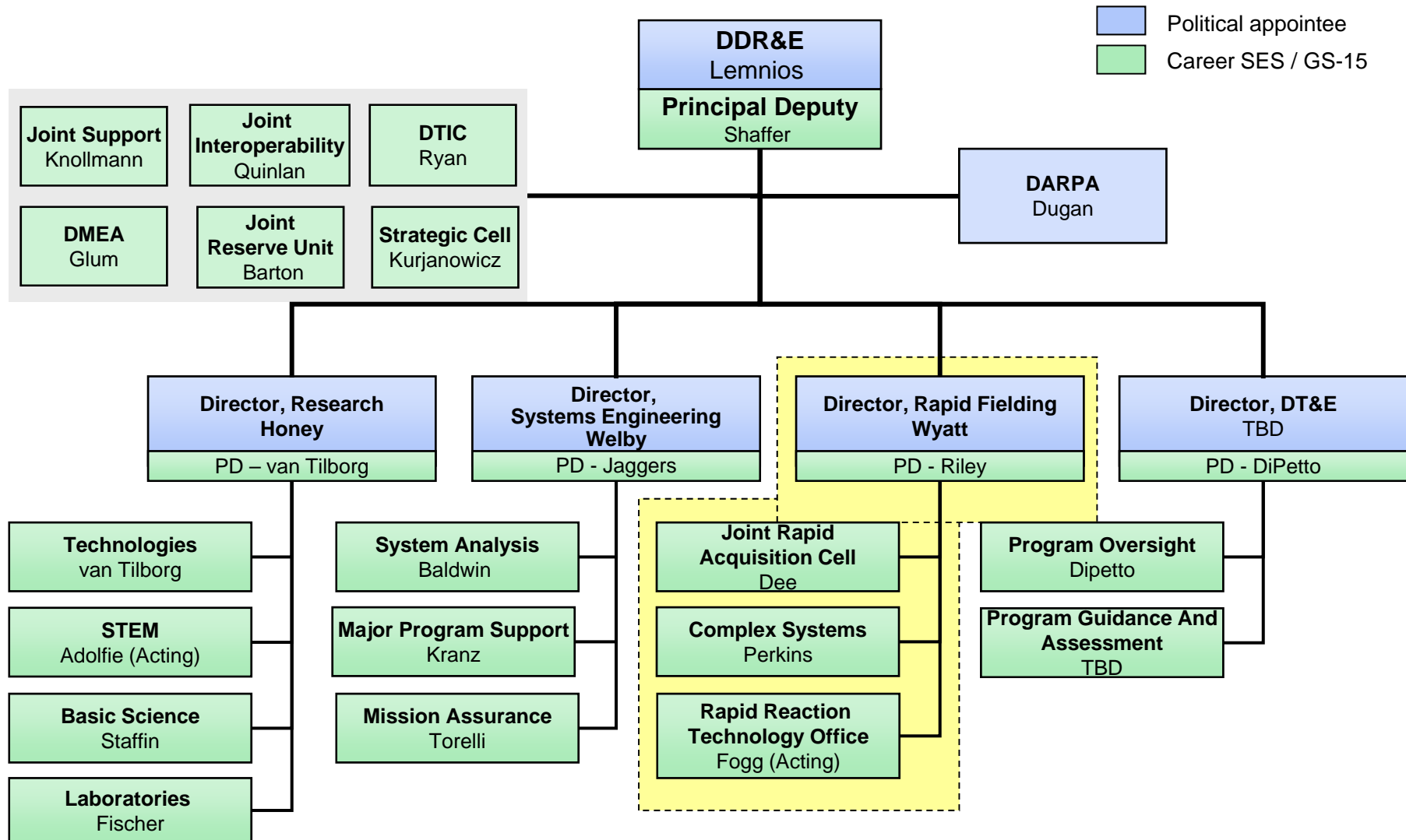
Outline



- **Organization & Mission**
- **Operating Model**
- **Technologies/Products supporting Humanitarian Assistance / Disaster Relief (HA/DR)**
 - **Situational Awareness**
 - **Transportation**
 - **Biomedical**
 - **Energy**
 - **Communications**
 - **Planning**
- **Opportunities for improvement and collaboration**



DDR&E Organization





Rapid Fielding Primary Mission and Functions



- **Provides policy and oversight to counter unconventional and time-sensitive threats**
 - Engage the services, interagency and coalition partners, industry, and academia to facilitate the timely satisfaction of validated priority operational needs
 - Enable rapid capability/technology transition within the Department through discovery and demonstration of advanced technology concepts
 - Utilize non-traditional resources/performers to identify “leap ahead” capabilities for warfighters

Rapidly transitioning innovative concepts into critical capabilities



RRTO's “Project Pelican,” demonstrating vertical take-off/landing in austere areas



JRAC aiding efforts to rapidly field unmanned helicopter for resupply



Joint Precision Airdrop System in Afghanistan from JCTD program



Operating Model

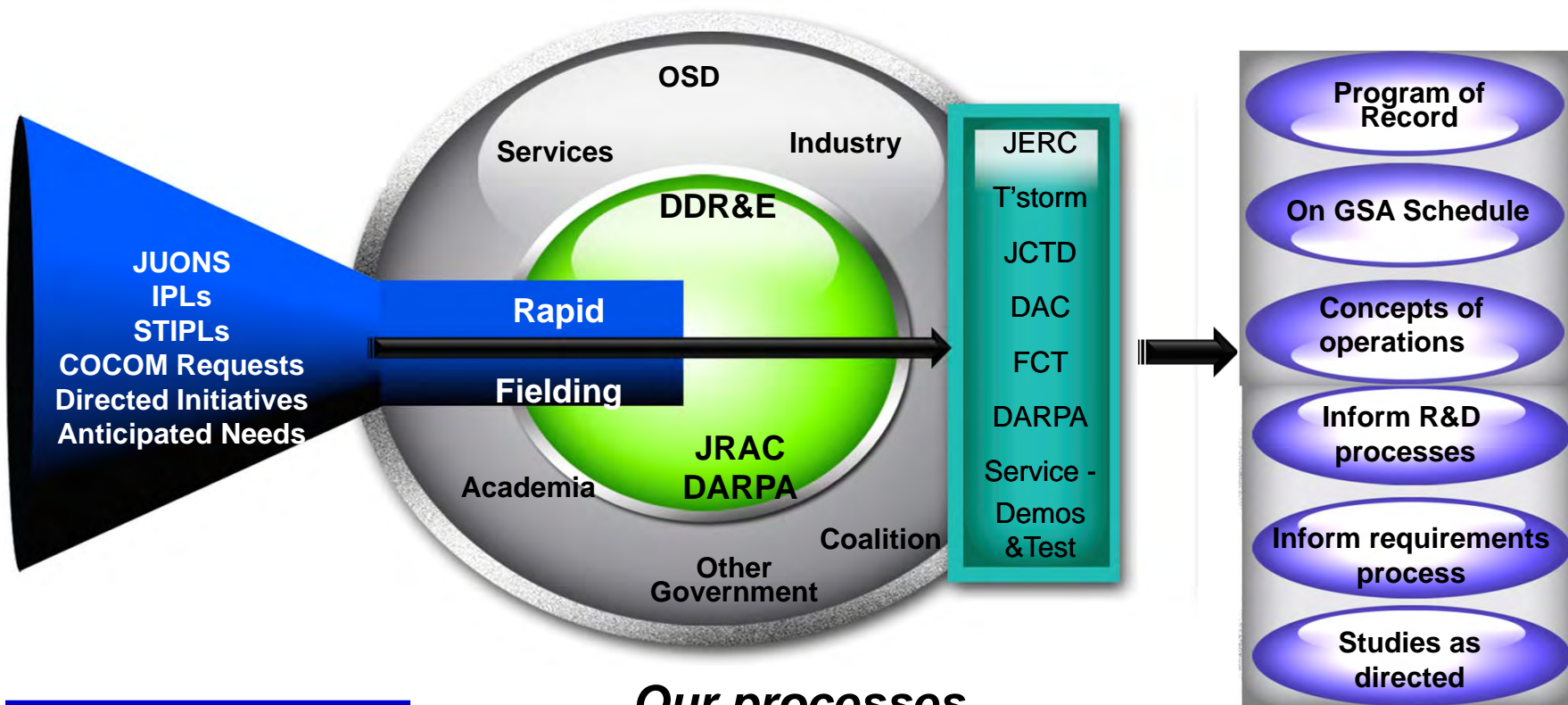


**Problem
Identification**

**Solution
Matching**

**Validation
Methods**

Outputs



Our processes ...

**Assess needs and
identify partners –
JRAC process**

**Address Near term needs –
Complex systems**

**Anticipate future needs –
RRT0**



Beyond Guns and Steel – HA/DR



HA/DR Areas of Interest

- Situational Awareness
- Transportation (efficiency and access)
- Biomedical (portability and self sufficiency)
- Energy (reducing the demand)
- Communication (in austere environments)
- Planning (beyond defense)

"We must focus our energies beyond the guns and steel of the military, beyond just our brave soldiers, sailors, Marines, and airmen. . . . I hear all the time from the senior leadership of our armed forces about how important these civilian capabilities are" – Secretary of Defense Robert Gates



Demand for Situational Awareness

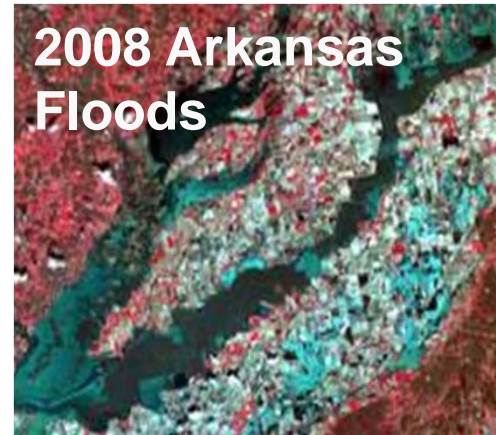


2008 humanitarian relief in Georgia



Event Management Framework (ACTD)

2008 Arkansas Floods



Eagle Vision (CTO)

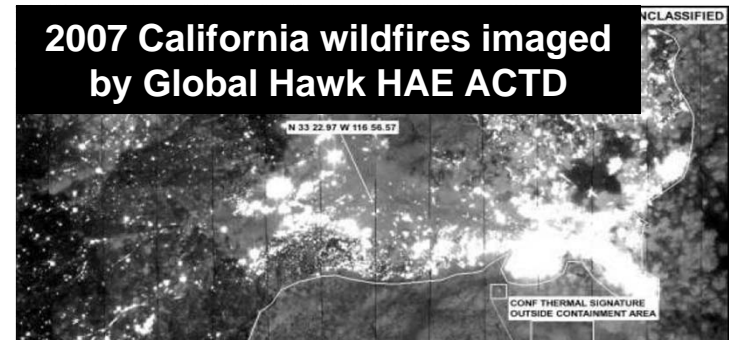


2009 North Dakota floods



Predator UAV (ACTD)

2007 California wildfires imaged by Global Hawk HAE ACTD



Global Hawk UAV (ACTD)



Transportation - More Efficient Deployment & Greater Access



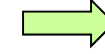
**Agile Transportation
for 21st Century (ACTD)**



**Node Management and
Deployable Depot (ACTD)**



Halvorsen loader (CTO)



Greater Access



**Joint Precision Airdrop System
(ACTD)**



**Joint Enable Theater Access –
Seaports of Debarkation (ACTD)**



Project Pelican (RRTO)



Biomedical – Portability and Self-Sufficiency



20-pound oxygen generator, from CTO, replaces 150-pound oxygen tanks, now in Iraq.



Medical supplies airdrop in Joint Medical Distance Support and Evaluation JCTD



Vaccine and reagent refrigeration for field, undergoing CTO testing



Trauma patient simulation system used to train medics, from CTO



SOF trauma management sets for use in forward areas, undergoing CTO testing



Mobile Oxygen and External Suction System undergoing CTO testing, Homeland Security has shown interest



Accelerated Nuclear DNA testing for field use, undergoing RRTO testing





Energy – Reduced Demand, Particularly in Forward Areas



**Combined heating, cooling and power generator
used Iraq and Afghanistan, from CTO**



**Foam insulation reducing heating and
cooling from Net Zero Plus JCTD, used
in Afghanistan and Iraq**



**This system may convert trash to power in austere
areas -- Pyrolysis unit being evaluated by CTO**



**Assessing alternative energy systems
for forward areas --- Net Zero Plus JCTD**



Communications – Capability in Austere and Devastated Areas



Hurricane Katrina -- two CTO projects enabled communications with responders



In Hurricanes Katrina & Rita FlyAway SatCom supported:

- Department of HLS
- National Guard
- Red Cross & relief agencies
- Mississippi Highway Patrol

FlyAway SATCOM since bought by:

- US Southern Command
- US Joint Forces Command
- US Army
- US Navy
- NSA
- DIA
- FEMA
- FBI
- White House Communications Agency

Enhanced connectivity was enabled by an application called “Web Assured Response Protocol” Applications



Communications – Mitigating Language Barriers



SnowGoose



**Navy medical personnel talk to
Pakistani, using Voice Response
Translator, from LASER (Language and
Speech Exploitation Resources) ACTD**



Planning – Networking Beyond Defense



Used in the US ...

Used in US AFRICOM, EUCOM and SOUTHCOM



Federal, State, and local agencies collaborate with network from Homeland Security/ Defense Command and Control ACTD

US forces, NGOs and nations coordinate efforts with Transnational Information Sharing Cooperation JCTD network



Used in Katrina response and other events – InfraLink van, provided interagency comm, planning and collaboration, from HS/D C2 ACTD



Opportunities for collaboration



- We look forward to engaging the services, interagency & coalition partners, industry, & academia to transition critical capability.

- For HA/DR projects specific contact RFD's Greg Reid

DDR&E/RFD/JCTD Directorate

(703) 601-2123; DSN 329

Greg.Reid@osd.mil

For additional information, contact the DDR&E
Rapid Fielding Directorate

<http://www.acq.osd.mil/rfd/about.html>

703-697-5036

Improving humanitarian assistance -- Mapping the Human Terrain JCTD